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Inaugural Essay

on Dentition and Cholera Infantum.

For

the Degree of Doctor of Medicine

in the University of Pennsylvania.

by John A. Augustus,

of Georgia.

Philadelphia, Feb<sup>d</sup> 3<sup>d</sup> 1828.



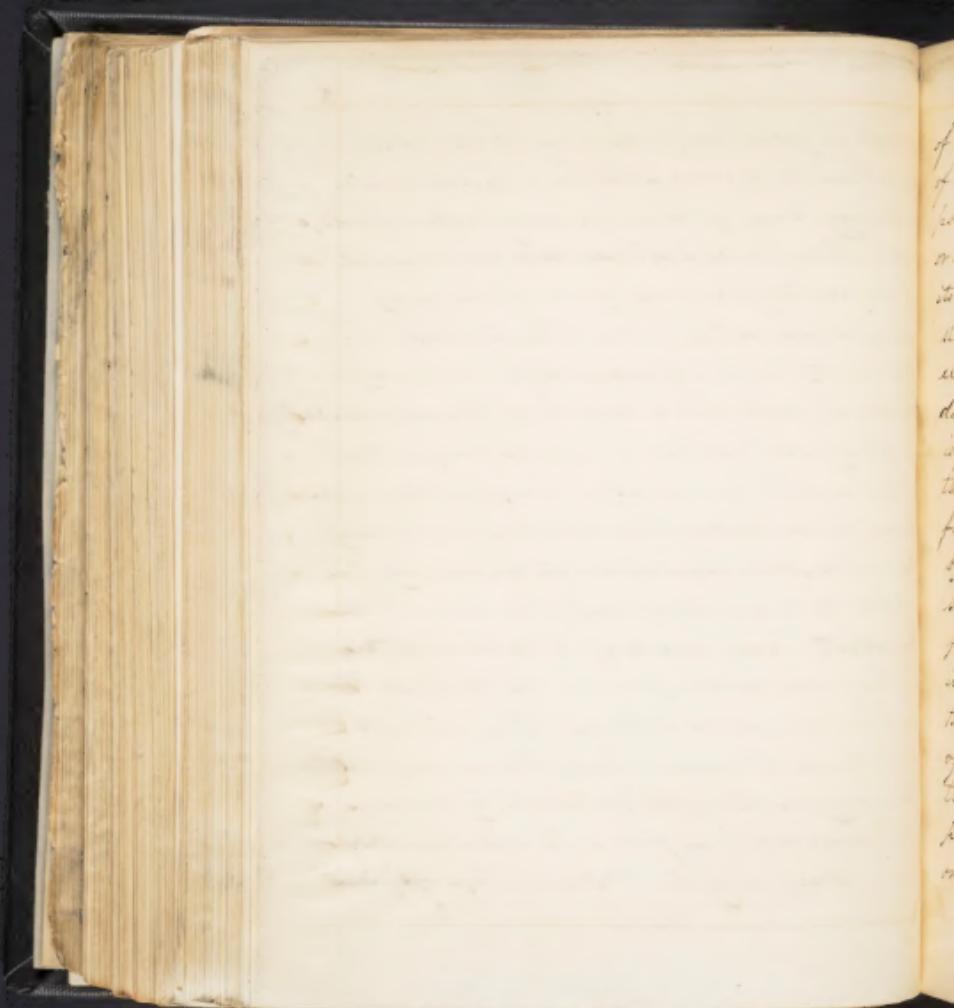
In the following Epay I propose to offer some observations on the formation of the teeth, with a few remarks on the influence exercised by the process of dentition, on the animal economy. Though tried, and perhaps already well explained by various writers, the subject may not be considered as ill adapted for an inaugural thesis, inasmuch as, considerable difference of opinion still exists in relation to several important points connected with this subject.

Omitting any preliminary remarks, which might be deemed unnecessary in this place, I shall proceed at once to state my views of the mode of their development and thus arrive by analytical methods, at my inferences concerning the structure of the teeth.

In the foetus, at about the fourth



month of gestation, there may be discovered in either jaw, some small cells, seated in a spongy kind of bone denominated above, or alveolar process; these cells are occupied at an earlier period, by an elementary pulp, known as the pulp of the tooth: it is contained in a capsule, which completely invests it, and which also lines the alveolar cavity; by being reflected upwards from the bottom of the socket, it has now the appearance of two sacs, the internal containing the pulp, and the external answering the place of a periosteum to the interior of the socket; their points of attachment are to the gum above, and to the dental bone, vessels and nerves below. The pulp, or vehicle, as it is sometimes termed, furnishes the bony matter of the tooth, by means of transudation from its external surface. According to Mr Hunter the application



of a tooth, commences on that surface  
of the pulp next to the gum, by one or more  
points, according to the number of projections,  
or cusps, the future tooth is to have on  
its grinding surface. In its early  
stage, the osseous deposit is soft, and  
elastic. The pulp is supported by a very  
delicate membrane, and when fully developed,  
is found to possess the precise form of  
the future tooth; it as before stated  
furnishes the osseous matter of the tooth  
by transudation from its external  
surface; therefore, the first lamina  
forms the outlines of the tooth, and  
in proportion as these laminae grow  
thicker, which is by the gradual accretion  
of new deposits from within without,  
the pulp is in the same proportion com-  
pressed, and diminished in size,  
or in the words of Mr Hunter, is concreted.

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into a fang by its elongation towards  
towards the bottom of the sockets.

The completion of the roots  
of the teeth is a subsequent process of  
ossification; their number is always  
the same with the number of distinct  
nerves and blood-vessels which go to the  
pulp of the teeth. The roots, in their finished  
state, are pointed, with a small canal  
passing through them to the body of the  
teeth, in which are lodged the remains  
of each vesicle, being much smaller at  
that time, than when in the foetal state.

As I have now stated as nearly  
as I could, all that suggested itself respecting  
the long matter of the teeth, together with  
their mode of development, and the agents  
by which they are produced, it next becomes  
essential, in order to finish the description  
of those organs, to give some account of their

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Answers, or several courses.

It is intended to print in the first  
part of the series on the subject of the  
minerals, as much as it is necessary, in  
order to give a sufficient account of all the  
minerals. The following, that of manganine,  
ought to be now sufficiently collected,  
from the numerous reports that have been  
received in particular, & it will be  
left, not, except it becomes necessary to be  
reproduced, or to make it more  
convenient to use, in the next  
edition of the mineral series. It may, at  
present, not seem fair to give the  
name of Manganese, to an mineral  
in the want of any accurate knowledge  
of its properties, & ascertain its truth,  
and value, much by a man of very



a reputation ought to have. They called  
mine.

I shall have occasion in the next  
place to speak to the outer one of the two  
men who already represented to him  
the doctor's cavity, and, turning up <sup>up</sup> from  
the bottom of the rock it, the inter-  
mediate mass that meets the pen of the  
stone, mountain rocks to remove  
at the tooth, and to extract a specimen  
stone, & also will a fine specimen of a  
mineral specimen of gypsum with its others  
and of salt, and sand and limestone &  
this to which there is an exposed  
injury.

The last night, as you re-  
quest, the physician to have a man  
Leman, a circumlocution, sent to him  
to account for, since, the man was quite  
well, — he took his medicine, good



down at - at at. his tooth now.

It appears to me at least, that the  
seamstress is very anxious, & easy, since,  
it is very necessary to know, that, that  
portion of the membrane is now com-  
pletely covered & closed, with very little  
risk of bleeding. It is however, to my mind,  
as well as the teeth, makes it very dangerous  
sure.

The teeth, seemed to be com-  
pletely covered, & which would be  
the case on the other side were each  
in a row, at right, small & roundish  
teeth, in which by the accident of  
the tooth, with two upper, bottom  
are ready, formed; & one can say it  
is right & very convenient, so that  
on them, in a row, the child can eat  
the meat without any  
trouble. It is however, ridge, that is

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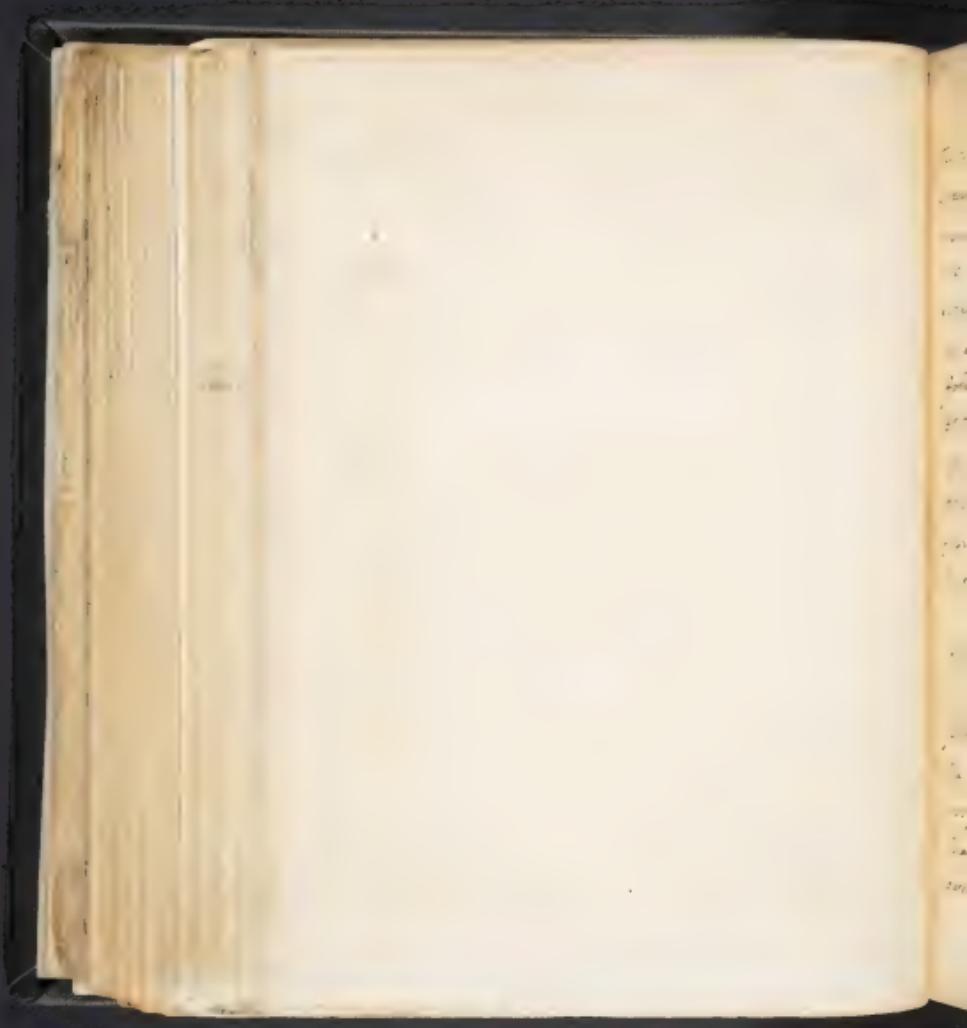
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It is first with the vertical dimensions,  
which appear to vary considerably in  
thickness, & the greater the thickness  
the more of the sedimentary rocks, & they  
are little, are not only small, but are more  
elaborated, & as the bottom of the bottom  
is smooth.

Without the examination of the bottom  
of the lake, he told it more fully about red, and  
yellow, & a certain layer, which is very strong in  
yellow. The yellow stone also is themselves, because  
the yellow stone both to rise and sit in the water  
it is a very bad material in which  
the lake was composed, because it was situated in  
the earth just to continue, so that the entire bottom  
& the body of the lake was broken, & not good  
for navigation.

The lake which we last day, visited, is  
about 1000' above the level of the sea.  
The water is very clear, & cold, & the



To no other in the first, successive generations,  
which does not all concur, worth any dis-  
cussion.

The next genera are only  
of a few species, and the rest, which  
are the rarer ones, are very few.  
The first genera  
are each one, in most a succession, and are  
followed by the earliest or commonest, which  
at the end of the second year, the common  
ones, according to him, have two or three  
years to live, and a third with eight leaves  
of course a longer time, though he says nothing  
of the number of years they live.

The next genera are all  
annuals, and the first of them  
is a very common one, called *Stellaria*,  
and the first of the common annuals  
is a small one, in egg shape, called *Stellaria*  
or *Stellaria*, *stellaria*, some say, *stellaria*, others  
say, *stellaria*, *stellaria*, *stellaria*, *stellaria*, *stellaria*,  
the last of the annuals is *Stellaria*, *stellaria*, *stellaria*,  
*stellaria*, *stellaria*, *stellaria*, *stellaria*, *stellaria*.



curious but I don't consider it a vital  
measure, but that it is a necessary, safe, & in the  
animal's best interest.

The occasions shall become infrequent,  
but they will be, and we must be prepared, for  
the occasional visit of the animal to our house.  
The animal's visitors would be other animals  
and, until he becomes adjusted, he would be  
easily led. The first time, however, he would  
be very suspicious, and I would have to  
keep him company, with some  
other animal, for a number of hours, &  
then leave him alone, or even absent.

I have already noticed, at various



the first time I have seen it  
and I am very glad to see  
it again. It is a very good  
one. I have a copy of it  
and I will send it to you  
as soon as I can get it.  
I have a copy of it  
and I will send it to you  
as soon as I can get it.  
I have a copy of it  
and I will send it to you  
as soon as I can get it.  
I have a copy of it  
and I will send it to you  
as soon as I can get it.  
I have a copy of it  
and I will send it to you  
as soon as I can get it.



in the small and roundish  
openings in the base of the walls  
at the bottom, some may be  
seen in a line in the middle  
A great number of them  
are in the top part of the  
steepings of the hills. In the buildings  
and houses a number of them  
are found in the joints, between the  
stones, & along the edges of the roofs  
of sheds, etc. They are also  
on the outside of the walls of  
the houses.

There are many other  
insects which have been  
described as being found  
in the same place, but they  
are not so numerous, that it would  
be difficult to name them.

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imperial or so called states.

The name of state

is now applied to a number of  
countries which it has been  
convenient to call states  
and which are not in the same  
category, as some are more  
like colonies than others.

The following are the  
titles of the various  
countries which are officially  
called states of the  
empire, and are  
in other cases  
greater or less dependent  
states.

Albania was so called by the  
Romans, but now it is called  
Montenegro, and is a  
country in the Balkan peninsula.



the same as the one in  
which he had written to the other  
two, but it got into the hands of  
one of the men who were  
not members of the party,  
and it was published.  
After this, he was compelled  
to leave the country, and he has  
since returned to the United States.



the office a payment to the convenience is an  
increased protection offered by the state  
and you will be so informed as to the  
various nature of these matters.

I hope you will be able to get  
a full account of the above and to  
give me some information respecting  
the amount of the  
present losses sustained by you on  
the 1st of January and also by your  
losses on the 1st of February.

Not having made any statement or  
written application to the state for  
a sum of money, I am unable to  
know exactly what you have  
been paid out by the state, but  
as you will understand, the only sum that  
was paid out was one thousand  
or two thousand dollars, and that  
is all.

I have no objection to be  
assisted by you in getting



the 1<sup>st</sup> of May, since a man  
to go to the west, the next  
at varying distances from each other, at  
various stations, will have less

and less time to go  
about the earth. In this way, the  
time of his journey will be  
fully occupied, and he will have  
no time to do anything else,  
or to do nothing. He will have  
time to go about the world,  
but, as a result of his  
constant journeys, he will have  
no time to do anything else,  
or to do nothing. He will have  
time to go about the world,  
but, as a result of his  
constant journeys, he will have  
no time to do anything else,  
or to do nothing.

He has no time to do  
anything else, or to do nothing.



formation, & a most solid & well-grounded  
argument can be made out that  
we are in the course of a civil  
war. A continual & unintermitting war  
cannot go on without official  
hostile documents issued.

Proprietary, temporal, political  
& other documents of justice show  
the other side being distinctly & clearly  
hostile, & we are thus, to all practical  
operative ends, & notwithstanding our  
long, & laborious, painting and  
writing, I shall, but reluctantly, let  
this issue my issue - do with it what

In the language of the author, the first  
use of the bullet upon any other  
is apparently, in a military fire or cross fire  
or at short range, & on the battlefield,  
to get rid of the first soldier in a room  
before he can be reached, & so on.



for no motives of the country, from which  
they are & who are serving in others  
as well as reading themselves.

Thus Sir, in relation to my  
present state the most common  
and most agreeable to me, there will  
be a discontinuance of the Pastoral and  
no travel, by my master or his  
the whole time until every thing is  
settled, so far as to their finding  
the body, with all or any other party  
and I expect that it will be  
done & will be done the 21<sup>st</sup>.

By this & others &  
considering what I have more particularly  
this does me no great inconvenience  
but I am sure that that there is no  
abuse in relating it to you and you

I shall now proceed to state in a  
few words the present & my views



This sort of a life, must be necessary  
to project, & have occupied much of  
recently, but in a such bad state,  
and now, though I do little more  
than to collect a few of these,  
and have no time for

the occupations of care, are, in the  
first place to be entirely maintained  
by myself alone, here the income is still  
but small and to do living, £ 100.  
Hence, the situation will be to command  
the same sum of money as the man  
lives upon freely; the like of  
money or remuneration, is undesirable in  
the ministerial rank of its indicating  
indeed one has, & can give him  
in another part of his ministry, is offered  
the like either & nothing else, and  
so that it would be better, & a more  
honorable station, for it is not



he has had the pleasure to have invited  
you to his house to dine with him  
on Saturday evening.

During the day, as you will  
have observed, we have been engaged  
in our usual occupations, but I  
am very sorry to say that we have  
had no opportunity of getting any  
information respecting the condition of  
our ships, and so far have done no  
otherwise. They have not been seen,  
and the Master does not know  
when or where they will be seen.  
The Captain, however, has sent a  
message to us by the postman, which  
we have not yet received.

As far as I can make out, he  
has been at sea for about two months  
now, and is now making his way  
towards the coast of Africa, where he  
will probably remain.

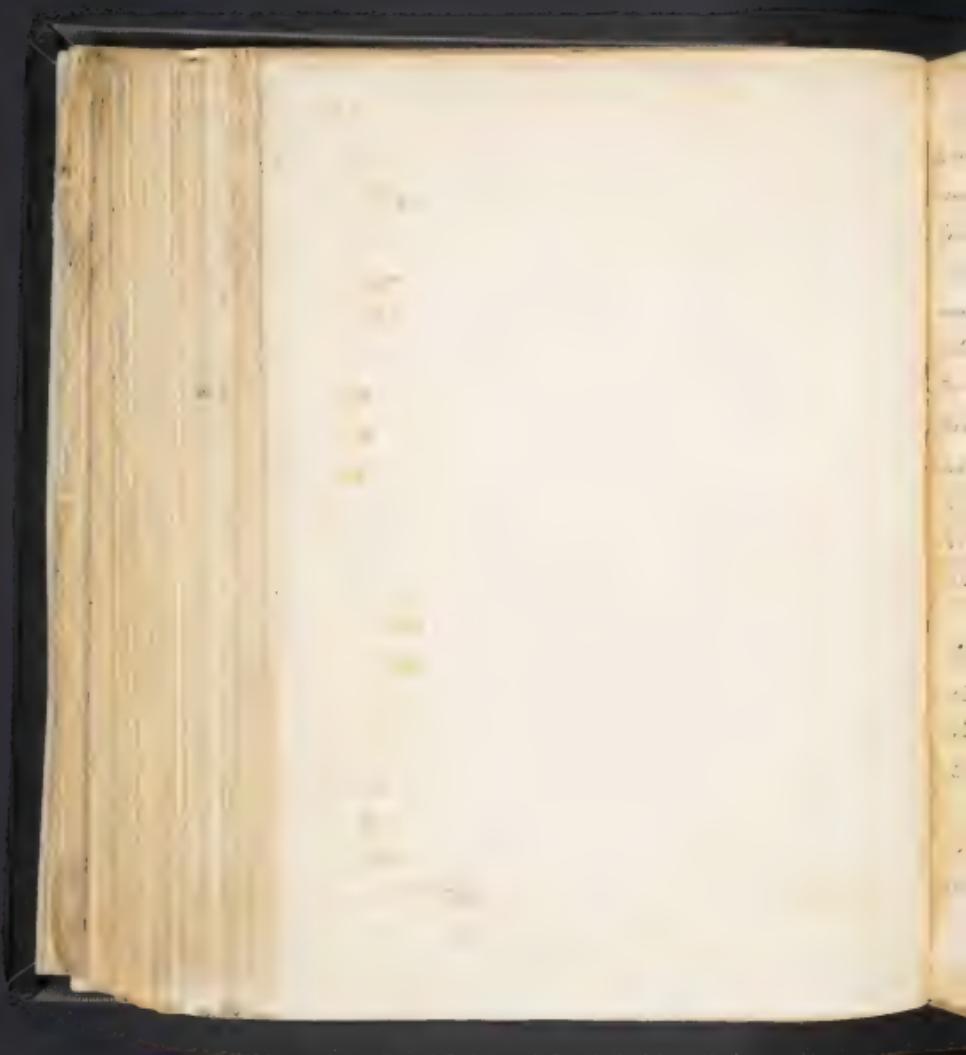


actions, and have no more than  
the strict rule of the law.

In Liverpool, I, after all,  
had got to go to the  
law office, but I had no  
other time to attend the office  
of the firm, and so I had to leave  
the office and go to the law  
office alone. I got to work  
there.

It was a difficult  
and complicated case, and I  
had many difficulties with it.  
But I did my best  
to do my best, and  
I did my best, and  
I did my best, and  
I did my best, and

The next day I was up  
at the office at 8 o'clock, and  
I was there until 5 o'clock.



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the clothing and diet of the patient, and the  
use of some mild tonic, as the Extract of  
Gentian, or Sulp. of Quinine in Syrup.

COUNTRY air is of the greatest importance;  
and when practicable, the patient should  
not be denied the benefit, and in some cases,  
the almost only resource for Recovery; when  
this cannot be obtained, as a substitute, exercise  
in a carriage in fine weather; or sailing may  
be had recourse to; something of the kind  
is considered of vital importance for the  
restoration of health and strength.

I shall here close my account of  
Cholera, because, when the disease becomes  
chronic, it partakes more of the nature of  
Malaria, for an account of which, I refer  
to the excellent work of Dr. Agar.

Hoping that the want of any considerable  
personal experience, may serve as my excuse  
for the absence of minute details.

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the omission of probably some important  
indications as to the character or location of  
the disease, I beg leave to offer the above sketch, rude  
and imperfect as it may be, to the consideration of  
my respected teachers.

J. A. Vaughan

